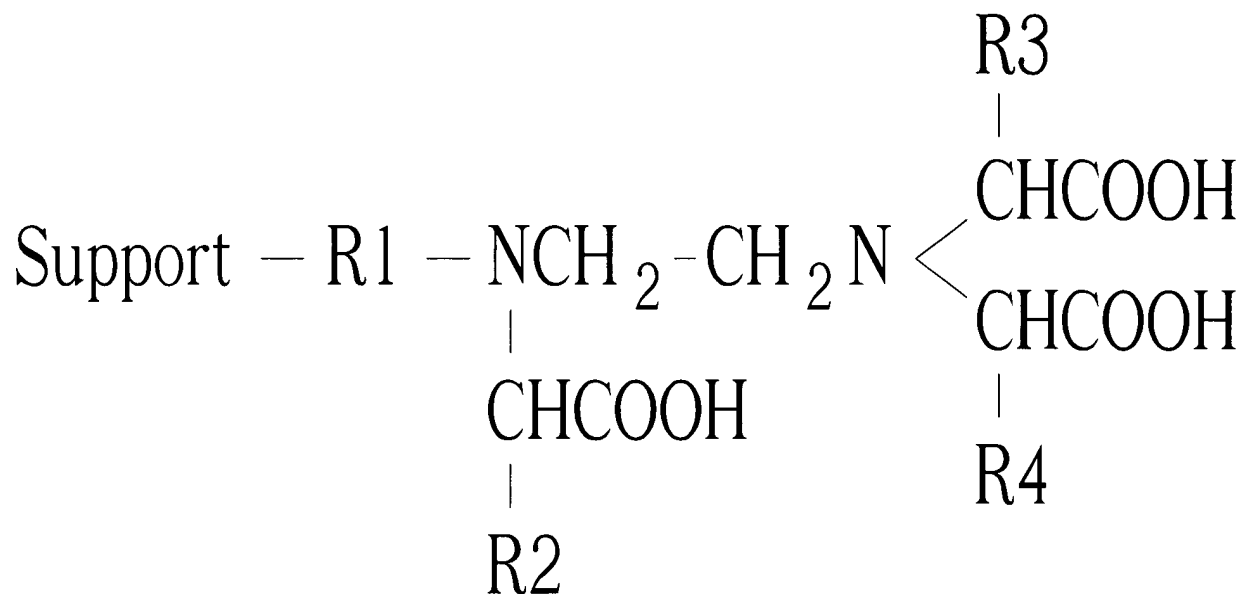


We Claim:

1. A separation matrix for purifying His-tag proteins that contains a porous support on which a chelating group is bound according to the general formula I below:



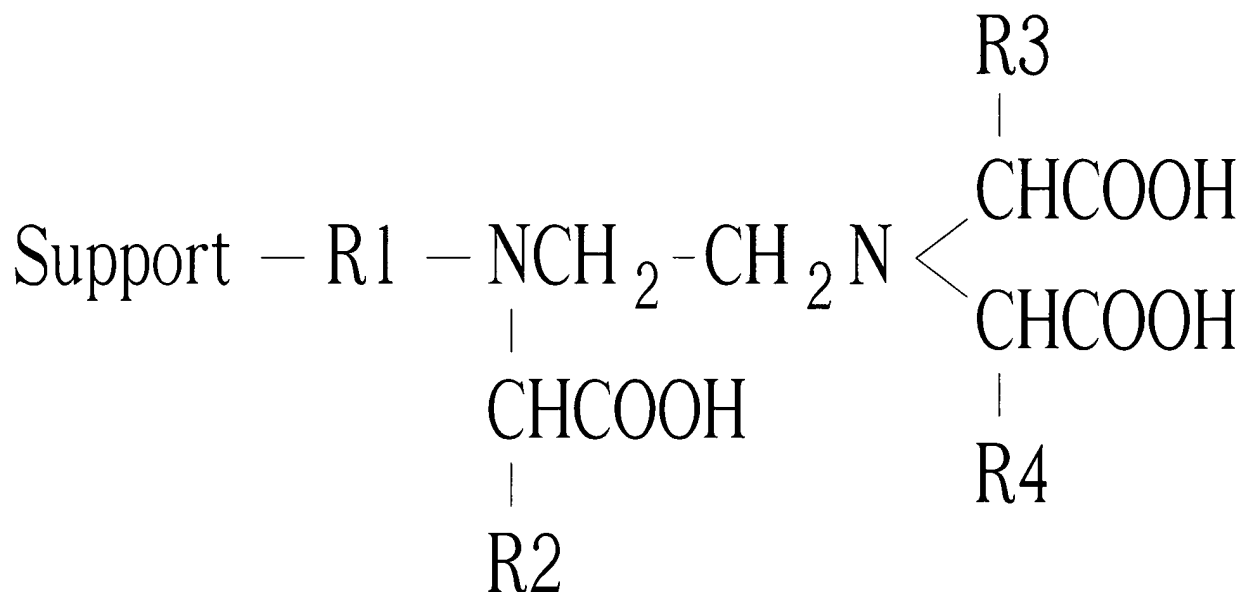
where R1 is a branched or unbranched alkyl group containing 1 to 20 carbon atoms, an aralkyl group containing 1 to 20 carbon atoms, an aryl group containing 1 to 20 carbon atoms, or a heteroaryl group containing 1 to 20 carbon atoms as well as at least one of the elements N, S, O, P;

R2, R3, and R4 are identical or different and represent hydrogen, branched or unbranched alkyl groups containing 1 to 20 carbon atoms, aralkyl groups containing 1 to 20 carbon atoms, and/or aryl groups containing 6 to 18 ring atoms; and  
the support has an average pore width larger than  $10^{-7}$  m (1000 Å).

2. The separation matrix as defined in Claim 1, wherein the support material has an average pore size greater than  $1.2 \times 10^{-7}$  m (1200 Å).

3. The separation matrix as defined in Claim 1, wherein the support material has an average pore size of  $1.2 \times 10^{-7}$  m (1200 Å) to  $2 \times 10^{-7}$  m (2000 Å).

4. A separation matrix for purifying His-tag proteins that contains a porous support on which a chelating group is bound according to the general formula II below:



where R1 is a branched or unbranched alkyl group containing 1 to 20 carbon atoms, an aralkyl group containing 1 to 20 carbon atoms, an aryl group containing 1 to 20 carbon atoms, or a heteroaryl group containing 1 to 20 carbon atoms as well as at least one of the elements N, S, O, P; and

R2, R3, and R4 are identical or different and represent hydrogen, branched or unbranched alkyl groups containing 1 to 20 carbon atoms, aralkyl groups containing 1 to 20 carbon atoms, and/or aryl groups containing 6 to 18 ring atoms, with the stipulation that no more than two of the groups R2, R3, and R4 are present as hydrogen.

5. The separation matrix as defined in claim 1, wherein R2, R3, and R4 are the same substituent in each case.
- 5 6. The separation matrix as defined in claim 1, wherein R2, R3, and R4 are present as a methyl, ethyl, n-propyl, i-propyl, n-butyl, isobutyl, octyl, or octadecyl group.
7. The separation matrix as defined in claim 1, wherein the support is an inorganic matrix.
- 10 8. The separation matrix as defined in claim 1, wherein the support is present in the form of silica, in particular silica gel.
9. A column that contains a separation matrix according to Claim 1.
- 15 10. Use of the separation matrix as defined in Claim 1, for purifying His-tag proteins.
11. The separation matrix as defined in claim 4, wherein R2, R3, and R4 are the same substituent in each case.
- 20 12. The separation matrix as defined in claim 4, wherein R2, R3, and R4 are present as a methyl, ethyl, n-propyl, i-propyl, n-butyl, isobutyl, octyl, or octadecyl group.
13. The separation matrix as defined in claim 4, wherein the support is an inorganic material.
- 25 14. The separation matrix as defined in claim 4, wherein the support is present in the form of silica material, in particular silica gel.
15. A column that contains a separation matrix according to Claim 4.
- 30 16. Use of the separation matrix as defined in Claim 4, for purifying His-tag proteins.